

Abstract of the Disclosure

Methods for forming nanostructures of various shapes are disclosed. Nanocubes, nanowires, nanopyramids and multiply twinned particles of silver may be formed by combining a solution of silver nitrate in ethylene glycol with a solution of poly(vinyl pyrrolidone) in ethylene glycol. Hollow nanostructures may be formed by reacting a solution of solid nanostructures comprising one of a first metal and a first metal alloy with a metal salt that can be reduced by the first metal or first metal alloy. Nanostructures comprising a core with at least one nanoshell may be formed by plating a nanostructure and reacting the plating with a metal salt.